AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A method comprising:

delivering electrical stimulation to tissue of a patient at a stimulation site via an electrode mounted on a lead and located proximate to the stimulation site; and

eluting genetic material from a polymeric matrix to the stimulation site to cause expression of a protein by the tissue at the stimulation site that increases the conductivity of the tissue at the stimulation site and creates a preferential conduction pathway between the stimulation site and at least one of a bundle of His or a Purkinje fiber of a heart of the patient, wherein the lead includes a chamber body that defines a chamber and the chamber contains the matrix.

Claim 2 (Original): The method of claim 1, wherein the matrix comprises extracellular collagen.

Claim 3 (Previously Presented): The method of claim 2, wherein the matrix comprises:

a freeze-dried blend of extracellular collagen and gelatin.

Claim 4 (Previously Presented): The method of claim 1, wherein the matrix is cross-linked, and eluting genetic material comprises eluting the genetic material at a rate that is a function of the cross-linking of the matrix.

Claims 5 -8 (Canceled).

Claim 9 (Original): The method of claim 1, wherein the electrode is porous, and eluting genetic material comprises eluting the genetic material via the electrode.

Claim 10 (Previously Presented): The method of claim 1, wherein the genetic material comprises at least one of a viral vector, a liposomal vector or plasmid deoxyribonucleic acid (DNA).

Claim 11 (Canceled).

Claim 12 (Previously Presented): The method of claim 1, wherein the genetic material causes expression of at least one of a connexin or a gap-junction by the tissue at the stimulation site.

Claim 13 (Original): The method of claim 12, wherein the genetic material causes expression of connexin-43 by the tissue at the stimulation site.

Claim 14 (Previously Presented): The method of claim 1, wherein the genetic material causes expression of at least one of a metalloproteinase, an anti-inflammatory agent or an immunosuppressant agent.

Claim 15 (Original): The method of claim 14, wherein the genetic material causes expression of IκB.

Claim 16 (Original): The method of claim 1, wherein the genetic material comprises a first genetic material, the method further comprising delivering at least one of a second genetic material and a drug to the stimulation site.

Claim 17 (Original): The method of claim 16, wherein the drug comprises dexamethasone.

Claim 18 (Original): The method of claim 1, wherein the electrode is implantable within the patient.

Claim 19 (Original): The method of claim 18, wherein the tissue at the stimulation site comprises cardiac tissue.

Claim 20 (Canceled).

Claim 21 (Currently Amended): A medical lead comprising:

a lead body;

~~an~~ a porous electrode mounted on a lead body to deliver electrical stimulation to ~~the~~ a stimulation site within a patient; and

a chamber body that defines a chamber, the chamber containing a polymeric matrix that absorbs a genetic material and elutes the genetic material to tissue at the stimulation site via the porous electrode, wherein the genetic material causes expression of ~~a protein~~ at least one of a connexin or a gap-junction by the tissue at the stimulation site ~~that increases~~ to increase the conductivity of the tissue at the stimulation site.

Claim 22 (Original): The medical lead of claim 21, wherein the matrix comprises extracellular collagen.

Claim 23 (Original): The medical lead of claim 21, wherein the matrix is cross-linked, and elutes the absorbed genetic material at a rate that is a function of the cross-linking.

Claim 24 (Original): The medical lead of claim 21, wherein the chamber body is separable from the lead for loading with the matrix and the genetic material.

Claim 25 (Canceled).

Claim 26 (Previously Presented): The medical lead of claim 21, wherein the genetic material comprises at least one of a viral vector, a liposomal vector or plasmid deoxyribonucleic acid (DNA).

Claim 27 (Canceled).

Claim 28 (Canceled).

Claim 29 (Original): The medical lead of claim 28, wherein the genetic material causes expression of connexin-43 by the tissue at the stimulation site.

Claim 30 (Previously Presented): The medical lead of claim 21, wherein the genetic material causes expression of at least one of a metalloproteinase, an anti-inflammatory agent or an immunosuppressant agent.

Claim 31 (Original): The medical lead of claim 30, wherein the genetic material causes expression of IκB.

Claim 32 (Original): The medical lead of claim 21, wherein the electrode is implantable within the patient.

Claim 33 (Original): The medical lead of claim 32, wherein the tissue at the stimulation site comprises cardiac tissue.

Claim 34 (Canceled).

Claim 35 (Currently Amended): A method comprising:

introducing genetic material to a polymeric matrix; and

placing the matrix into a chamber formed by a chamber body of a medical lead for elution of the genetic material to tissue of a patient at a stimulation site, wherein the genetic material causes expression of ~~a protein~~ at least one of a connexin or a gap-junction by the tissue at the stimulation site ~~that increases~~ to increase the conductivity of the tissue at the stimulation site, the medical lead including a porous electrode, wherein the matrix elutes the genetic material to the stimulation site via the porous electrode.

Claim 36 (Previously Presented): The method of claim 35, further comprising:

blending extracellular collagen and gelatin; and

freeze-drying the blended extracellular collagen and gelatin to form the matrix.

Claim 37 (Original): The method of claim 35, further comprising:

identifying the genetic material and an elution rate; and

cross-linking the matrix based on the genetic material and the elution rate.

Claim 38 (Original): The method of claim 35, further comprising lyophilizing the matrix containing the genetic material.

Claim 39 (Original): The method of claim 35, further comprising:

freezing the chamber body containing the matrix and the genetic material; and

providing the frozen chamber body to a clinician,

wherein the clinician thaws the chamber body and assembles the lead to include the chamber body for implantation of the lead into the patient.

Claim 40 (Previously Presented): The method of claim 35, further comprising:

soaking the matrix in the genetic material; and

placing the matrix into the chamber.

Claim 41 (Previously Presented): The method of claim 40,

wherein soaking the matrix in the genetic material and placing the matrix into the chamber comprises soaking the matrix in the genetic material and placing the matrix into the chamber by a clinician, and

wherein the lead comprises a lead body, and the clinician assembles the lead body, chamber body and electrode prior to implantation of the lead within the patient.

Claim 42 (Previously Presented): The method of claim 35, wherein the chamber body is located at a distal end of the lead, the method further comprising immersing the distal end of the lead into the genetic material by a clinician to introduce the genetic material to the matrix.

Claim 43 (Withdrawn): A method for increasing the conductivity of cardiac tissue of a patient at a stimulation site comprising:

delivering electrical stimulation to the stimulation site via an electrode mounted on an implantable lead and located proximate to the stimulation site; and

eluting genetic material from the lead to the stimulation site to cause transgene expression of at least one of a connexin or a gap-junction by the tissue at the stimulation site.

Claim 44 (Withdrawn): The method of claim 43, wherein the transgene expression in response to delivery of the genetic material creates a preferential conduction pathway between the stimulation site and an intrinsic conduction system of a heart of the patient.

Claim 45 (Withdrawn): The method of claim 43,

wherein the lead includes a chamber body that defines a chamber and the chamber contains a cross-linked polymeric matrix, and

wherein eluting genetic material comprises eluting genetic material from the matrix at a rate that is a function of the cross-linking of the matrix.